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OBSERVATIONS

ON TUMOURS,

WITH CASES,

BY WILLIAM LAWRENCE, ESQ., F.R.S.,

PRESIDENT OF THE SOCIETY.

FROM THE SEVENTEENTH VOLUME OF THE MEDICO-CHIRURGICAL TRANSACTIONS, PUBLISHED BY THE MEDICAL AND CHIRURGICAL SOCIETY OF LONDON.

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READ NOVEMBER 8TH, 22ND, DECEMBER 27TH, 1831.

Few subjects in pathology and therapeutics are more interesting and important than the history and treatment of tumours, in both of which many points, and those not of slight consequence, are hitherto imperfectly understood. How are changes of structure to be distinguished in all circumstances from new formations? To what difference in the natural process is the different result in these two instances to be attributed? Do they owe their origin to the same or to different causes? Are the same or similar means capable of checking the progress of both? What are the tumours, if any, that can be arrested in their growth, diminished, or dispersed, by other means than surgical operation? What are the characters distinguishing those in which extirpation may be undertaken with reasonable expectation of permanent cure, from others of destructive and fatal character? We shall not be able to give a satisfactory answer to these and other similar questions, till we possess a more accurate history of particular tumours,

in which a minute account of their origin, progress, and symptoms shall be combined with a careful description of their structure, and of the effects of treatment.

Unless we are aware of our ignorance, we are not likely to make the exertions necessary for procuring information: hence I have been led to point out what I regard as the principal deficiencies in this branch of surgical knowledge. As these can only be supplied by the united labours of many observers, I have offered in the following pages, a small contribution of remarks and facts, hoping that they may elucidate some subordinate points, and that they may induce other members to favour the Society with the results of their experience on this important subject.

The incongruous assemblage of diseases under the order TUMORES of Cullen merely shews that when he wrote, nothing was known of tumours in the more restricted sense in which we now employ the term. The treatise on surgical diseases, of a veteran professor and hospital surgeon, published in the present century, leaves the subject in the same darkness and confusion, as will be apparent from the following enumeration of heterogeneous diseases, which he has described under the common name of tumours; viz. erysipelas, phlegmon, boil, carbuncle, malignant pustule, aneurism, varix, the vascular growths constituting nævi, scirrhus, cancer, œdema, and fatty swellings.

Mr. Abernethy was, I believe, the first surgical writer who took a more philosophical view of the subject. He shewed that the various growths constituting tumours ought to be distinguished and characterised by the differences of their anatomical structure. He pointed out the absurdity of classing together diseases, which agree in no other respect than that of causing enlargement of the affected part; and he proposed to restrict the appellation *tumour* "to such swellings as arise from some new production, which made no part of the original composition of the body." Unfortunately he does not adhere to this clear and proper distinction, but abandons it in the very same page. For he proposes to include in the definition not only such enlargements of glands as "are owing to a tumour growing in them, and either condensing the natural structure, or causing an absorption of the original gland;" but also those, which "produce an entire alteration of structure in the part; the natural organization being removed, and a new formed diseased structure substituted in its stead." Accordingly he speaks of cancer and fungus hæmatodes as tumours, although scirrhus, in its primary form, is hardly ever seen as a new production in the sense of Mr. Abernethy's definition; and he gives no example of the kind, all his cases being degenerations or changes of structure in organs. If the latter are to be included with the new productions in the definition of tumour, this term will embrace several other affections in addition to those treated of in Mr. Abernethy's essay; for

example, scrofulous and other alterations of the mamma, testicle, and various organs.

In explanation of the inconsistency into which Mr. Abernethy has thus fallen, in his very interesting and instructive essay, it may be observed, that it is not easy to draw a clear distinction between new or accidental productions and changes of structure or degenerations of organs. There is no definite boundary between them; on the contrary, as in other diseases, there is an insensible transition from one to the other. In the case of fungus hæmatodes, we find the same structure sometimes occurring as a new production, an independent tumour; sometimes as change of structure in a part. Indeed, we meet with this growth in three distinct forms: viz. as a deposit enclosed in a cyst, as an unencysted formation, and as an infiltration in the substance of an organ. Again, we find a similar gradual transition between the structures composing various kinds of tumour, so that we often hesitate in deciding to which species a particular swelling should be referred. As the same gradual blending of one form into another occurs throughout the whole field of disease, we cannot wonder that the several attempts at reducing its infinitely diversified phenomena to an artificial arrangement of classes, orders, genera, species, and varieties, should have failed so signally. They have proceeded on a false analogy, diseases having been compared to the species of natural history. The latter however are distinctions established by nature, while the former

may be compared more justly to the ever-varying results of different shades and combinations of colour. I nevertheless consider, that Mr. Abernethy's original design of confining the term tumour to new productions ought to be strictly adhered to; and that the distinction between them and changes of structure, although it cannot always be satisfactorily established in our present imperfect knowledge of these affections, is not only useful, but very important both in pathology and treatment. We cannot expect that one and the same explanation will elucidate the origin and growth of an entirely new production, and the alteration of structure in a part; nor can we suppose that common principles of treatment will be applicable in the two cases. Mr. Abernethy however makes no distinction between them in his general observations, of which those relating to treatment seem chiefly applicable to changes of structure, while such, as are intended to explain origin and growth, can only be understood as applied to new productions.

Considering that as yet we understand but imperfectly the nature of disease, and the distinctions between such of its forms as are nearly allied, we need not be surprised that it is in many instances difficult, if not impossible, to frame satisfactory medical definitions. Thus, according to Mr. Abernethy's explanation already quoted, the gravid uterus would be a tumour; since it is a swelling, caused by a new production, which made no part of the original composition of the body. The French writers seem to

me to have done well in classing these growths under the general head of *accidental productions*, as contradistinguished from those which belong to the regular or normal state of the frame; also, in separating them into two divisions, according as they are analogous to the normal tissues, or different from them, *analogues* or *heterologues;* we might say *similar* or *dissimilar*. It will of course be understood, that these run into each other by insensible gradations. We might then define tumours to be accidental productions, either similar to the normal tissues, or dissimilar, developed in the cellular or adipous structures, or in the substance of any organ. These productions are often unattended with any increased magnitude, therefore we must disregard the etymology of the word, and leave the circumstance of enlargement out of our definition.

In considering the natural history of these new or accidental productions, our first inquiry is into the mode of their origin and increase. Three explanations have been offered; first, the effusion of blood, and its coagulation, and the subsequent organisation of the coagulum; secondly, the effusion and organisation of coagulating lymph; thirdly, chronic inflammation. Although these views are essentially different from each other, they are all three mentioned in various parts of his essay, by Mr. Abernethy, who does not seem to have adopted either of them definitively. When various explanations are given of any living process, we shall find that its nature is not

understood. There can be only one true account of the matter, and when that has been discovered, the others are discarded. It seems to me in the present instance, that neither of the explanations above-mentioned offers a satisfactory solution of the phenomena.

According to either of these views, tumours ought to pass through successive stages, and to present different appearances at different periods of their development. For instance, we ought to find them at first as masses of coagulated blood, or coagulating lymph, and then to observe various degrees of transition from those substances to the textures which characterise the perfect growth. Observation however discloses nothing of this kind: tumours, in their earliest state and smallest size, have their peculiar structure as well marked as in their subsequent progress and full development. An adipous tumour, not exceeding the bulk of a pea, differs only in size from one as large as the head. Effusions of blood into the cellular texture from external violence are of daily occurrence: hardly an individual escapes them. If such extravasations could become organised and then form tumours, the latter should prevail almost universally. We see however that the blood, thus poured out, either disappears by absorption, or irritates the surrounding parts, and causes suppuration, by which it is expelled. No instance has yet been adduced, in which such an effusion has been con-

verted into a tumour. The following case, which is the only fact brought forwards by Mr. Abernethy in proof of the point in question, seems to me altogether inconclusive. "A medical practitioner bruised the upper part of his thigh against the pummel of a saddle in consequence of his horse starting. The bruise and slight inflammation attendant on this accident soon disappeared; but after some months he perceived a small tumour, which gradually increased till it acquired a considerable magnitude. He came to London, and had it removed. It was an adipous tumour, and had a distinct capsule inclosing it, formed by the condensation of the cellular substance in which it had grown."*

This explanation of the origin of tumours was probably suggested by the statements of Mr. Hunter respecting the production of vessels in coagulated blood, the agency of this process in effecting the union of wounds and fractures, and its occurrence in effusions of blood into serous cavities. We now know that the adhesion of wounds and the union of broken bones, are not accomplished in this way; moreover, that these processes take place most readily where no coagula are present. I have never seen any satisfactory proof of blood becoming organised, when effused in wounds, bruises, or into serous cavities, or when deposited in aneurismal

* Surgical Observations on Tumours and Lumbar Abscesses, 1827, p. 12.

sacs; though, if the thing really takes place, daily experience ought to afford numerous and unequivocal examples.

Nothing is more frequent than the interstitial effusion of lymph in consequence of inflammation: the substance thus poured out is not formed into tumours; it is absorbed as the inflammation subsides, or its partial organisation causes the enlargement and condensation of the affected structure. None of the phenomena, usually considered as characteristic of inflammation, are observed to precede the formation of tumours. These growths occur insensibly, and often arrive at a considerable size before persons are aware of their existence.

If the preceding views respecting the origin and growth of tumours were correct, the attempts to check their production and increase by leeches, cold applications, and the antiphlogistic treatment generally, would be rational. We find however that such means exert no influence over accidental productions, although they may be employed with advantage in some of the swellings caused by changes of structure; and this marked difference in the effects of treatment is a further reason against confounding together the two kinds of disease.

I have nothing to offer in place of the explanations to which I have now objected. It seems to me

that the circumstances, which determine the production of tumours generally, or of any particular kind of growth, are entirely unknown to us: nor ought we to feel surprised at our ignorance respecting these aberrations of nutrition, when we are quite in the dark as to the mode in which the process is accomplished in its natural or normal state; when we know nothing of the differences in arrangement or operation which lead to the varied results of vascular action; when we are unable to explain how the capillary vessels of one part deposit muscle, of another bone, of a third fat; how one gland secretes bile, another urine, and a third saliva.

It may be observed generally, that the accidental productions constituting tumours frequently correspond in their structure to the parts in which they are produced. Thus we have masses of fat formed in the subcutaneous adipous tissue; and on the other hand, tumours of cellular structure occur in that kind of cellular tissue which does not contain fat. The latter are not so common as the former; and as I have not met with any clear description of this kind of growth, which may be called *cellular* tumour, as the other is termed *adipous*, I shall relate a case of it, observing only that these, like adipous tumours, are not attended with pain or any peculiar symptoms; that they may attain very considerable size; and that they become troublesome or dangerous only in consequence of their bulk.

CASE.

Large Cellular Tumour occupying the labium pudendi and buttock.

I was consulted, in the year 1826, by a lady 28 years of age, handsome, very well formed, of fair complexion and light hair. She came into my room with her sister, looking very strong and healthy, and said that she wished to have my opinion on a rupture. She turned aside to loosen her dress, that I might examine the part, and was longer than I expected in making the necessary arrangement. I looked round expecting to meet with a hernial tumour in the groin or bend of the thigh, perhaps as large as a walnut or an egg, when, to my utter astonishment, I saw hanging from one of the buttocks a mass about twice the size of my head, of which the accompanying drawings exhibit a posterior and a lateral view. It was greater in breadth than the transverse measurement of the two thighs, which, in a tall and very well made person like this lady, were of good size. The complaint had existed for four years, and had not grown fast during the first two. It had given no pain, and even at present was only troublesome by its weight, bulk, and inconvenient position. It interrupted no function, and did not even impair any; indeed the general appearance of the patient was that of perfect health and strength. It had commenced at the posterior part of the left labium pudendi, and had extended gradually along

the buttock and behind the os coccygis. The tumour was a soft, but not fluctuating mass, and slightly subdivided into large lobes. The skin was loosely connected to it, so that it could be pinched up into large folds: it had become partially excoriated from pressure and friction, and was consequently rather red and rough on the prominent parts of the swelling; but in other respects it was healthy. Some veins of moderate size could be obscurely seen on the surface. The basis was the smallest portion of the tumour, which expanded below into a pendulous mass, rather broader than the two thighs. The basis reached from the coccyx to the left labium, and from the edge of the gluteus magnus to the anus. The greatest circumference of the swelling was thirty-two inches; it was twenty-one inches round at the basis, eleven inches from the latter to the middle of its inferior edge, and eight in the line of the basis from the coccyx towards the trochanter.

The basis of the tumour was quite moveable on the subjacent parts, but it was of uncertain extent towards the front; that is, I could not determine how far it reached inwards beyond the labium, or towards the cavity of the peritoneum. The patient said that her medical attendant had thought it was a rupture, and I therefore examined carefully whether any impulse was produced in it on coughing, or whether the swelling was continued along the side of the vagina. These points were not clear, but the absence of the symptoms, which a protrusion large

enough to form such a swelling must have caused, sufficiently disproved the notion of rupture. The propriety of taking another opinion having been suggested, this lady consulted Mr. Wardrop, and we determined that the disease ought to be removed, as we could discover no connexion with any internal part, although we could not trace the boundary of the growth satisfactorily towards the labium and vagina.

I removed the tumour on the 9th of September, 1826, making two incisions, one on the outer, and the other on the inner side, and detaching integument enough to cover the denuded surface after the operation. The skin was easily separated, and the base of the tumour was readily detached from the parts beneath, its situation being quite superficial, so that merely a few fibres of the gluteus magnus were exposed. But the anterior portion, which advanced into the labium, could not be eradicated: it passed inwards along the side of the vagina, on which there was an evident drag, when this part was pulled: I therefore cut it through. The part thus divided was tough, with a compact fibrous structure, and a light reddish-grey colour. There was free bleeding from numerous vessels of various sizes, which I did not stop to tie, and a large quantity of blood was lost, when the patient became very faint, and the hemorrhage ceased, so that there was no necessity for ligatures. The edges of the incision were brought together by eight sutures, and the wound was thus as completely closed as the thickened state of the skin detached from the

tumour would admit, when the patient was put to bed in a very faint state, in which she continued till night. She, however, spoke and looked very well, so that I could entertain no apprehension about her, although the pulse at the wrist was barely perceptible. Two grains of crude opium at bed-time.

10th. She slept for three or four hours; her pulse and strength are recovered.

11th. The opiate was repeated last night, she slept well. Spermaceti dressing to the wound, which looks well. Senna mixture.

12th. The bowels were freely opened yesterday, and she slept well without an opiate. The pulse is quiet and the tongue clean; she was lifted out of bed to-day to a sofa. The sutures were cut out; the wound is free from inflammation, and dressed with dry lint and soft rags.

13th. (Evening.) She became indisposed yesterday evening with head-ache and thirst, and she passed a restless night without sleep. The head-ache continues; skin hot, pulse 120; tongue rather dry in the middle. I found that this excitement was owing to indulgence in beef-tea and other articles of nourishment, which had been liberally administered by the attendants from an idea that it was necessary to strengthen the patient after the operation, and also to conversation with some friends yesterday evening.

She was desirous of having the opiate repeated, feeling that she should not get sleep. Eighteen leeches to the temples; a dose of calomel and jalap. Diet of tea and bread.

14th. The feverish symptoms have disappeared; the pulse is quiet; tongue moist.

The case went on most favourably from this time, and the patient returned to her residence in the country, a distance of about ten miles, on the 23d, the wound being then very nearly closed.

The tumour consisted of a fleshy mass with a somewhat elastic feel, approaching nearly to fluctuation: its substance undulated and trembled when pressed or moved. On cutting through it, the texture was found nearly uniform throughout, being rather more compact on the prominent part, where it must have suffered pressure in sitting and lying, and have partaken of the irritation which had caused excoriation of the surface. Its tint was reddish grey. Its structure was tough and fibrous, and consisted of condensed cellular tissue entirely free from fat. It was left during the night in a large dish, and in the morning a very considerable quantity of fluid had escaped from it. This was not subjected to chemical analysis; it is therefore merely a conjecture that it may have been similar to the fluid frequently found in the interstices of the natural cellular tissue.

This lady, who had regained her strength rapidly after leaving London, and had continued in perfect health, paid me a visit on the 13th of March, 1827, when I examined the cicatrix and found the part quite sound. The skin, which had formed on its separation from the tumour, large thick folds, had shrunk considerably, so that the natural outline of the buttock was nearly restored. The entrance of the vagina was natural, and nothing like return of swelling could be discovered on introducing the finger. Soon afterwards she married, and I did not see her again till the spring of 1828, when she was far advanced in pregnancy, and had experienced a considerable reproduction of the tumour. It distended the loose skin left from the operation, filled the left labium at its back part, and could be felt through the vagina as a kind of cord ascending towards the pubes. She went through her confinement very well, and I removed the swelling again on the 1st of August, 1828. The anterior prolongation was carefully traced on this occasion: it ascended along the left side of the vagina, becoming gradually smaller, and seemed to pass under or behind the arch of the pubes. As I was putting it on the stretch to trace it to its termination, it suddenly gave way, and I found that it had tapered quite to a point, the end appearing entire, as if the whole morbid growth had come away. The part removed was equal to about one third of the mass formerly extirpated, which it exactly resembled in structure. The edges were brought together by su-

tures and the wound was covered with cold damp cloths. The healing went on rapidly, and the patient was able to return to the country on the eighth day. There has been no reproduction of the swelling *.

Between the cellular tumours now described, and the enormous swellings, in which the male external organs of generation are sometimes involved, more particularly in warm climates, there is this distinction—that while the former are new productions, arising and increasing insensibly, without local or general disturbance or pain, the latter are mere enlargements of the cellular and cutaneous tissues resulting from interstitial deposition consequent on repeated attacks or a long continuance of more or less violent inflammation, which is attended with the usual symptoms both in the part and in the constitution. I had occasion to remove, on account of this affection, the prepuce of a gentleman who had resided many years in the West Indies. Although the part had attained the size of my fist, I found that the increase of size was owing to distention and enlargement of the cellular tissue, with some thickening of the skin; and I was sur-

* In the course of the last year, a tumour of considerable size, exactly similar in structure to the foregoing, was removed from the left labium pudendi of a female between twenty and thirty years of age, in St. Bartholomew's Hospital, by my colleague, Mr. Earle. This growth had formed and increased slowly and without pain. It was loosely connected to the surrounding parts, except at its upper end, where it adhered more firmly by a kind of tough fibrous prolongation, which was cut through in order to detach the mass.

prised to find the affected structure not much changed in its anatomical characters.

Description of a Tumour occurring in the immediate vicinity of the parotid gland.

Mr. Abernethy has described a tumour under the name of *pancreatic sarcoma,* which, he says, "is made up of irregularly shaped masses, in colour, texture, and size resembling the larger masses which compose the pancreas. They appear also to be connected with each other, like the portions of that gland, by a fibrous substance of a looser texture."* He says, that it may occur as a distinct tumour, though it is more frequent as an affection of the female breast; and he adds, that he has preserved no notes and does not distinctly recollect any case of a tumour of this structure occurring in a distinct form †. The only example that he mentions, with the exception of some instances in the female breast, is that of a man "with three diseased lymphatic glands, each of the size of a very large plum, situated beneath the basis of the jaw upon the mylohyoideus muscle." ‡ I have seen many instances of tumour approaching in anatomical characters more or less nearly to the description given by Mr. Abernethy of the pancreatic

* Surgical Observations on Tumours, p. 34.

† Ib. p. 43. ‡ Ib. p. 35.

sarcoma, situated close to the parotid gland and near to the angle of the lower jaw; and I have once seen a similar swelling under the basis of the jaw close to the submaxillary gland. The question naturally arises whether the peculiar character of these growths can be referred to their local situation? Whether they derive their resemblance to the structure of the salivary glands from the circumstance of being formed near to them? I think that there is as much analogy in configuration and structure in this case, as we see in any instance between an accidental production and a natural part; and I have not met with a similar tumour in any other situation except in the instance related in Case V., where the new growth occupied the angle of the mouth and side of the lip, and therefore was not far from the parotid.

These swellings have an uneven, knotty, or lobulated surface, as if they were made up of masses more or less distinct. They are firm; sometimes as hard and incompressible as the most dense scirrhous swelling of the breast; sometimes not quite so hard, but still firm. They are loosely connected to the surrounding parts, and therefore easily moveable: this character they retain, however long they may have existed, and are thus distinguished from scirrhus, with which they might be confounded if the mere circumstance of hardness were attended to.

They form and grow without any pain, increasing slowly, so that at the end of five, six, or more years,

the tumour may not exceed the size of a walnut. I have not seen it larger than an orange; indeed the complaint causes so much inconvenience and deformity by its bulk, that patients usually submit to an operation before it has attained this size. It is not painful on pressure.

When the tumours of the least firm kind are cut through, they exhibit a very light brownish yellow tint, and an obscurely lobulated arrangement. The colour resembles that of scirrhus, but the texture is less hard and tough; it is softer, and instead of being hard and unyielding, it will break short off. The harder growths are very like scirrhus in density, toughness, and colour: they creak under the scalpel, and sometimes exhibit a few bony particles. Occasionally there is a partial admixture of coagulated blood, in streaks and patches, with the usual texture of the tumour, so as to lead to an apprehension that the disease might be of malignant character.

In some instances the affection has commenced about, or previously to the twentieth year; in others it has appeared later. The swelling has been on the left side in all the cases I have seen; and close on the parotid in all but two, having been in contact with the submaxillary gland in one of these, and situated in the left angle of the mouth and side of the lip in the other.

Although the texture of these growths nearly re-

sembles seirrhus, and in some instances presents other appearanees caleulated to exeite apprehension, I have invariably found them innoeent. When analogy of strueture to fungus hæmatodes has been suspeeted from the partial presenee of eoagulated blood, there has been no approximation to the nature and progress of that disease. The absence of pain, and the sound state of the neighbouring lymphatie glands, through the whole eourse of the eomplaint, are well-marked distinctions between these tumours and true scirrhus. The former do not affeet the surrounding textures like the latter; they do not become adherent to the skin nor to the parts beneath, but remain quite loose and moveable throughout. Neither are they eonneeted with, nor do they lead to any morbid eonstitutional disposition, so that extirpation by the knife has been invariably and permanently sueeessful, within my experienee, exeept in a case operated on by Mr. Maeilwain, where death ensued from erysipelas. They eannot be eheeked in their progress by external applications or medieines; the proper eourse of proceeding, therefore, is to remove them by the knife. This should be done early; for they inerease in size, and may become so connected with the various important parts around as to make the operation difficult and dangerous.

CASE I.

The first ease in whieh I met with this affection, was that of a young man, about twenty-two, in whom

the tumour, which was knotted, hard, and equal in size to a large walnut, was situated below the left ear and extended deeply between the mastoid process and jaw. The latter circumstance, together with profuse arterial hemorrhage, rendered the dissection difficult and tedious. On the surface of the tumour, after its removal, were found a slice of the parotid gland, and a portion of the facial nerve about three quarters of an inch in length: the latter adhered closely to the swelling. The operation was followed by partial paralysis of the left side of the face, and of the orbicularis palpebrarum. No inconvenience ensued from the wound of the parotid.

CASE II.

Mary Bray, aged 34, a thin woman of ruddy complexion and healthy appearance, was admitted into St. Bartholomew's Hospital, under my care, on the 27th of July, 1826. She states that she caught cold, and had a sore throat from sleeping in a damp bed, between seven and eight years ago. Soon after she perceived on the left side, immediately behind the angle of the jaw, a small swelling, which increased very slowly for four years, and has since grown more rapidly. She has lived abstemiously, and enjoyed good health for many years. She has now a swelling, considerably larger than a hen's egg, immediately behind the angle and ramus of the jaw: it is oval, hard, unequal on the surface, as if divided into four lobes, and easily movable both on the subjacent parts and

under the skin. It has never been attended with pain, nor caused inconvenience of any kind. I removed it on the 28th, by a single incision of about five inches in the direction of its long axis. Profuse bleeding from several arteries took place during the operation, which was not interrupted on that account: it ceased on the occurrence of faintness. A small slice of the parotid gland was found on the basis of the tumour. The surface of the latter was tuberculated, and covered by a thin closely-adhering whitish capsule: its substance was compact and firm, approaching in colour and consistence to the softer forms of scirrhus. The cut surface had a slightly lobulated appearance; and the texture was uniform throughout. The flaps of skin were gently brought together by a few adhesive straps, which were removed the next day, the wound being then simply covered with a damp cloth. A considerable portion of the incision united by adhesion; but a copious flow of thin watery fluid took place from its middle in a few days after the operation, and continued for about ten days. On the 22nd of August she left the hospital perfectly well.

CASE III.

A female, about 45, of spare habit, had a swelling about as large as a middle-sized walnut, on the left side, a little above the angle of the lower jaw, and on the surface of the parotid gland, to which, as well as to the skin, it was connected by a loose

cellular tissue, so as to be easily moveable. It had the incompressible hardness of scirrhus, and was a little knotted on the surface. Its existence had been noticed about three years, and the patient having observed that it had increased lately, wished to have it removed, when I informed her that it could not be got rid of without an operation, although she had never experienced the slightest pain or inconvenience. The cut surface exhibited a whitish homogeneous substance without any lobular arrangement; in colour and compactness it nearly resembled cartilage, but it possessed the toughness of the hardest scirrhus. There were, however, none of the small opake white striæ or points which are usually dispersed in abundance through the latter. This growth was so hard, that it was cut with difficulty, particularly at one or two points, where, on scraping the surface with the nail, a little bony matter was detected.

CASE IV.

Mr. R., about 40, a tall and robust person, of dark complexion and hair, who had always enjoyed the best health, consulted me in the summer of 1826, on account of a large swelling over the left side of his lower jaw, which had existed for eight or ten years, increasing slowly without causing pain or inconvenience of any description. The patient, however, had lately become uneasy on account of the recent more active growth of the disease, and of its size, which caused a conspicuous deformity. It was

as large as a middle-sized orange, rather irregular on the surface; in front there was a prominent knob, equal to a large nut. The integuments were loosely connected, so that they could be pinched up, and the connexion was equally loose in all other directions. Hence the entire mass could be moved easily; but it was doubtful whether the middle of the basis might not be more fixed. There was something of an elastic feel on pressure, but no clear evidence of fluid. The evils to be apprehended from the continued growth of a large mass thus situated made me recommend its removal, although the boundaries of the disease towards the interior of the neck were uncertain; and the patient immediately consented to the operation. An incision was carried over the swelling, from the chin to behind the ear, of which the lobulus was considerably elevated by the tumour: a perpendicular incision along the cheek joined this at right angles. The tumour was quickly denuded on its external surface and sides, but it adhered more firmly at the base, and many arteries were divided in detaching it. I could not separate it in the middle, as it went obviously behind the jaw; I therefore cut it off, and in so doing opened a central cavity, from which fluid escaped. This, I believe, was clear, yellow, and of watery consistence; but, as it mixed with the blood, which was flowing in abundance from numerous arteries, its appearance and nature could not be accurately ascertained. After tying some arteries, I removed from behind the jaw what seemed to be the remainder of the disease; that is, a portion

of a cyst with thick sides, which, when fitted to the part previously removed, completed the cavity. There still, however, remained a dark, livid, bloody substance of spongy texture, going inwards behind the lower jaw. On its front edge the external carotid was beating, completely denuded for about an inch. On examining the margin of this spongy part, I found a thin white cyst, connected by loose cellular tissue, which I dissected and separated cautiously; but I could not get behind it, and I found the internal carotid beating on its posterior margin. The mass broke down readily under pressure with the finger, which passed behind the pharynx, betweenit and the spine, to the middle of the neck. I broke away what would separate easily: the fragments thus removed were dark reddish or brownish, soft, and friable. After the operation, it was observed that the mouth was drawn to the opposite side, and much distorted.

The tumour was of tolerably firm texture, with a large central cavity; and the sides of the latter were smooth. In colour, which was a light yellowish brown, or light amber, and in general appearance on a section, the texture resembled scirrhus; but it was not so compact or tough. It was invested with a thin but firm white capsule. Towards the cavity, the texture gradually changed into a red and bloody substance. No communication could be ascertained between the interior of the cavity and the spongy prolongation behind the ramus of the jaw.

The appearances above described, and particularly the character of the disease where it extended inwards, naturally suggested the question, whether the tumour was of the fungous class, and consequently malignant? Whether the part left behind would be likely to throw out a bleeding fungus, or to lead to reproduction of disease at a more remote period? Mr. Callaway, who assisted me in the operation, and other gentlemen conversant with the anatomy of morbid structures, to whom I shewed the tumour, thought unfavourably on these points. Partaking of the same impression, I gave a very bad prognosis to the patient's friends. Mr. Wardrop, however, decidedly pronounced the structure not to be malignant; and his opinion was justified by the event, for the patient had recovered, and was out in a fortnight, and has continued perfectly well to the present time.

A slow oozing of blood took place for twenty-four hours after the operation; then a bloody serum flowed pretty copiously for three or four days, the part swelling considerably, and the skin getting very red. Then matter came, at first red, and afterwards quite healthy. The whole of the wound united by adhesion, excepting the central part, where the two incisions met. A little discharge of the healthiest character still continued from this point at the end of the fortnight, and had not entirely ceased when Mr. R. left town a few days after.

Although the parotid was necessarily much cut in the operation, no inconvenience was observed to result.

The cicatrix and surrounding parts are quite healthy at this time, and there is no more fulness than on the sound side. The paralytic distortion of the face, which was considerable long after the operation, is diminished; but the left corner of the mouth still drops, and the eyelids do not meet in attempts to shut the eye, but no inconvenience is experienced from this circumstance.

CASE V.

A young lady, nineteen years of age, shewed me a tumour, occupying the left side of the upper lip and the corner of the mouth, which had existed three or four years, never giving the slightest pain, and had reached the size of a large walnut, causing great deformity. It was quite loose, and could be pushed from side to side: towards the mouth it was only covered by the mucous membrane, which was partially everted and exposed to the air in consequence of its distension by the swelling, and hence had become slightly dried. I removed it from the inside by an incision over its middle; and it was cut out in half a minute: no bleeding followed. There was no redness, swelling, nor pain; and in two days the patient was well. The surface of the tumour was knotted. Its substance was whitish, compact, tough, and almost

of cartilaginous firmness, resisting the knife so as to cut with some noise. There was a little bony matter at one point.

Mr. Abernethy seems to doubt whether the swellings in the female breast, which he mentions as illustrations of his panereatie sareoma, are new productions, or changes of structure either in the mammary gland or some adjacent lymphatic glands. They obviously belong to the former class, or that of new growths, being generally loose in their situation, surrounded by a distinct capsule, and exhibiting a structure which, although analogous to that of the gland in which they are more or less imbedded, is yet clearly distinguishable from it. They have been well described and delineated by Sir A. Cooper, in his "Illustrations of the Diseases of the Breast,"* under the name of chronic mammary tumour. They differ from the swellings just described by being much softer and looser in texture, and more distinctly and minutely lobulated throughout: they never exhibit the scirrhous hardness of the others. Again, they are often painful, sometimes causing severe suffering. In this latter respect, as well as in their anatomical characters, they are obviously assimilated to the part in which they are produced.

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* Chapter IV. plates 6 and 7.

On difficulties in the diagnosis between innocent and malignant growths.

The distinction between innocent and malignant tumours, which is of great importance in practice, more especially when the question of operation is to be considered, has not yet been clearly traced. We are not sufficiently acquainted, for this purpose, with the characteristic differences of the various accidental productions, nor with the external signs by which each of these may be recognised.

Tumours, which in their regular progress destroy life by the changes occurring in the affected part, such as ulceration, bleeding, sloughing, or by causing similar productions in other parts of the body, more particularly in important internal organs, or by both together, are considered malignant. The occurrence of serious local and general symptoms, the developement of new growths in other parts, and the existence of such constitutional suffering as leads to the suspicion that organs of consequence are involved in the affection, would generally be regarded as decided proofs of malignant character and insuperable objections to an operation. Mr. Abernethy has described a disease, exhibiting these alarming features, under the name of *tuberculated sarcoma,* which he seems to have chosen in consequence of the secondary growths consisting of small hard masses or *tubercles.* He says that it " appears to possess a very malignant

nature."* A case has come under my observation, in which the original tumour had assumed a most threatening aspect, in which several smaller swellings had shewn themselves in other parts, and the patient had been brought to the brink of the grave by severe constitutional disturbance; where however amputation was performed with complete success, and life has at all events been prolonged for many years. I relate this case in order to shew that our knowledge of the subject is hitherto imperfect, and as a caution against concluding hastily that a disease is malignant, and the patient's situation consequently hopeless.

CASE.

A tumour appeared spontaneously, and increased rather rapidly in the left thigh of a gentleman twenty-seven years of age. He consulted one of the most eminent surgeons in London, who said that the limb must be removed. The patient accordingly took lodgings in town, and a day was fixed for the operation. When the surgeon came, he was alarmed by the local and general symptoms, and determined not to proceed until a consultation should have been held on the case. The four most experienced and celebrated surgical practitioners of the period, were unanimous in considering the affection malignant, and that an operation would not be justifiable. The patient returned to his residence in the country in

* Surgical Observations on Tumours, page 52.

the situation of a man condemned to death. Anxious however to take any chance of escaping, however slight, he determined, on the suggestion of a medical friend in his neighbourhood, to take the opinions of Sir W. Blizard and myself, before he abandoned himself to his fate; and we visited him together. We found him with a tumour of elastic feel, undefined in its circumference, about four inches in diameter, with the skin shining and bright red, on the anterior and inner part of the left thigh, a little above the knee. There was a firm indolent swelling, about as large as a hen's egg, imbedded in the soft parts, at the back of the pelvis, and a similar one in the back, near the spine; one as large as a nut over the left eye, and several smaller ones just under the skin in various parts. All the smaller productions had shewn themselves subsequently to the appearance of the large tumour in the thigh. The patient was almost worn out by pain and want of rest; he was excessively emaciated, with profuse fetid perspiration. I considered the case quite hopeless, not only from the multiplication of the external swellings, but also from the probability that disease had occurred in internal organs. To Sir W. Blizard it appeared in a light rather less unfavourable; he thought there was a chance of success from amputation, and he performed the operation two days afterwards (March, 1819). This was half a year after the first appearance of the swelling. The more serious and distressing symptoms were immediately relieved, and the patient eventually recovered. The

tumour in the eye-brow, which had increased and become painful, was removed in 1825. In December, 1828, I was consulted by this gentleman on account of a tumour in the forearm as large as a walnut, situated over the course of the ulnar nerve, and causing severe pain with indescribable sensations, like electric shocks, upwards and downwards in the direction of that nerve. Mr. —— had enjoyed tolerable health, without being strong. At this time he was nervous and irritable, with an anxious countenance and an aged appearance. I removed the disease in February, 1829: it was situated between the flexor carpi ulnaris and the bone, and the nerve adhered so closely to it, that a portion was removed with the tumour. The latter was of firm texture, but not so hard as scirrhus. The part healed favourably, and remains well. Mr. —— again came to me in December, 1830, on account of a tumour, the size of a goose's egg, imbedded in the flesh of the stump. He had not been aware of its existence when the last operation was performed; and it had become troublesome only during the preceding six weeks. He now experienced most severe shooting pains in the part, with repeated recurrence of the electric dartings from the stump into the body. I removed the tumour, finding it necessary to make a large incision on account of its size and its deep situation. The growth, although it had been loose and felt circumscribed, appeared to be prolonged to the tuber ischii, and I removed it up to the bone. The part removed consisted of a circumscribed oval tumour, and of a

firm fibrous prolongation connected to it externally, and consisting of one of the flexors of the knee, which had been divided in the amputation, converted into a tough fibrous texture of light brown tint. The swelling was covered with a thin white capsule, and was homogeneous; in compactness, toughness, and colour it approached to the characters of scirrhus. The extensive wound of this operation healed without any unfavourable occurrence.

The pelvic and dorsal tumours remain nearly as they were twelve years ago. Several small subcutaneous knots can be felt in the arms and head, by passing the hand firmly over the surface; but they are less than when the thigh was amputated. There are a few small softish cutaneous growths in the face. The appetite, health, and strength are tolerably good; but there is of late increase of suffering. Strange sensations, sudden dartings and shootings occasioning convulsive movements, and compared to the effects of electricity, are often experienced.

Another source of difficulty in deciding on the nature of tumours and the question of operation is found in the circumstance that productions of dissimilar character may be combined in one morbid growth. This may occur in swellings developed in the soft parts, and striking examples of it are sometimes seen in the tumours of bones. From the interior of these organs, more especially of the femur and tibia, there may be produced growths of the medullary kind, which

are decidedly malignant, or of the fibrous and osseous description, which are of an innocent character; or of a third kind, in which the two former are blended together. All these productions pass under the unmeaning and vague term of osteo-sarcoma, which it would be better to banish entirely from medical nomenclature. If we speak of fungus hæmatodes, melanosis and cancer of bone; of fibrous and osseous growths, &c., our description may be rendered clear and intelligible, and rational rules of treatment may be laid down.

In the following case a tumour of mixed character, such as I have alluded to above, grew from the interior of the tibia. The limb was amputated; and the result of the operation has been hitherto perfectly satisfactory both as regards the limb and the patient's health.

CASE.

Elizabeth Warner, aged thirty, who came from a miserable hovel at Finchley, was admitted into St. Bartholomew's Hospital on June 30, 1831. She had a swelling nearly as large as her head, occupying the front and sides of the left leg immediately below the knee, on which it had encroached so much as to render the joint nearly motionless. It rose on the front into smooth rounded masses, separated by slight depressions. The skin covering it was for the most part fixed, apparently from mere distension, but otherwise healthy. The superficial veins were enlarged

and numerous. In front of the head of the tibia, where the disease had been first noticed, the integuments were thin, glossy, and livid; and a shallow sloughy ulcerated excavation as large as a half-crown piece was presented. A slough had been produced by the application of caustic; when it separated, some clear yellow fluid escaped; afterwards blood had flowed occasionally, and once to the amount of a pint. The tumour was fixed to the tibia, and was generally, though not uniformly, firm. In some parts it was of bony hardness, while in others it was soft and elastic. Hence doubts were entertained whether the complaint was a bony growth or fungus hæmatodes. The glands in the groin were not enlarged. The tumour began to appear in December, 1828, after the patient had hurt the knee by a fall. It had gradually enlarged, without causing pain or any inconvenience, except weakness of the limb, which obliged her to use a crutch. During her pregnancy, in 1829, the disease remained stationary and quiet; but after her confinement in February, 1830, whilst suckling, which she continued fourteen months, the tumour became much larger, and was occasionally very painful. The patient had usually enjoyed good health. Her mind had lately been rendered uneasy by the occurrence of bleeding, and she had lost flesh. She was, however, in a very favourable condition for undergoing an operation.

The thigh was amputated on the 2d of July. A large quantity of blood was lost during the operation,

the bleeding vessels being unusually numerous. No unfavourable symptom occurred subsequently. On the 29th of July the ligatures had all come away; and on the 11th of August the stump was perfectly healed, and the patient dismissed cheerful and well from the hospital.

Examination of the tumour. When the integuments and other soft parts had been removed, the tumour was found to arise from and be inseparably connected with the upper part of the tibia; or, it might be said that the bone, in its upper six inches, was expanded into the morbid growth, as there was a continuity of bony substance between it and the surface of the latter. When the diseased mass and the tibia had been divided by a vertical section carried from before backwards, it was found that the former had originated in the centre of the tibia; that it consisted partly of a tough fibrous texture, with bone plentifully deposited in it, partly of a medullary (cerebriform) substance; and that it contained numerous cells, of which the largest were from one to two inches in diameter. These cells, of which the surface was quite smooth, were filled with a transparent yellow fluid of watery consistence: in some of them there was also a small portion of coagulated blood adhering to the surface.

Nearly the whole exterior of the swelling, which had been considered to be bony from its hardness, the greater part of the septa between the cells, and the

surfaces of the latter were made up of the fibrous and osseous texture. The medullary substance, which was whitish, soft, and breaking down into a pulp under slight pressure of the finger, formed the nucleus of the tumour, where it grew out of the bone, and was also deposited partially between the cells.

One of the two halves, into which the mass had been divided, was subjected to maceration. When the soft texture had been completely decayed by putrefaction and removed, it appeared that the upper five or six inches of the tibia had been destroyed by the morbid growth, which had not penetrated the joint, the articular surface being entire though reduced to a thin shell. The latter was connected to the lower portion of the tibia by a net-work of bony fibres and plates, forming the skeleton of the tumour, and supplying the place of the bony shaft. There was an exterior thin and imperfect shell growing out of the walls of the bone below, and from the edge of the articular surface above. This was the bony substance, which had been felt on the surface of the swelling before the operation. The interior of the space circumscribed by this covering was irregularly traversed by bony productions shooting from the lower end of the tibia, and connected at various points both with the outer shell and with the remnant of the articular surface.

In the cases, which I have seen, of simply medullary or cerebriform growths originating in bones, the

progress of the disorder has been much more rapid than in the instance just related; the origin and increase of the morbid production have been attended with pain, generally considerable, and occasionally very severe, with interruption of rest, and more or less disturbance of the circulation and digestive organs. The following case, which I relate in illustration of the differences just mentioned, is interesting in other points of view. I may add that in a man, twenty-two years of age, whose thigh was amputated in St. Bartholomew's Hospital last summer by Mr. Earle, on account of a large medullary tumour growing from the femur, five months only had elapsed from the commencement of the disease, which had been attended with great pain, impaired health and loss of flesh.

CASE.

I was consulted on the 21st of February, 1825, by Mr. K., twenty-two years of age, and about six feet high, with large limbs, light hair, and fair complexion; the latter however having a rather pallid and doughy appearance. He had been quite well at the preceding Christmas, and two or three days after had felt a pain in the knee. He had been told that this was rheumatic, and would probably go away by exercise: he accordingly attempted to dance it off in the beginning of January, but found himself worse for the effort. He repaired, however, to Cambridge to prosecute his studies: the pain increased, and a

slight fulness was observed below the knee. When I saw him in February, there was no defined tumour, but an inconsiderable general swelling with a little redness, more particularly about the head of the tibia. The motions of the joint were unimpaired; but exercise brought on pain, which went off by rest. Leeches, aperients, and repose of the affected part were directed; and Mr. K. went back to the University. He returned to London much worse on the 4th of March. Pulsation had been felt in the swelling, and had led to the suspicion that it might be aneurismal. There was now an elastic tumour between the bones and below the knee, with general enlargement in the same situation, and slight œdema below. No beating could be felt in the swelling; but the pulsation of both tibial arteries was suppressed, although it was readily and plainly perceived in the opposite limb. The pulse was accelerated and the tongue foul; there was loss of appetite and costiveness; and the patient got very little rest at night. Two surgeons of great experience, who saw him, were doubtful about the nature of the complaint, but pronounced positively that the swelling contained fluid. It increased rapidly, the whole upper part of the leg being enlarged, with a considerable protrusion under the knee. When this part began to project more decidedly, the pulsation of the tibial arteries in the lower part of the limb returned. As the local complaint advanced, the constitutional disturbance increased, in spite of every effort to lessen it. The anterior prominence was now so soft as to make us believe that suppuration had

occurred; this opinion being corroborated by the increased pain and redness of the part. Under this impression, after the propriety of the measure had been considered in consultation, it was punctured deeply on the 2d of April, but nothing flowed except a little blood. It was now clear that the disease was a growth of medullary character, and that amputation, although its result was considered doubtful, afforded the only chance of saving life. A small bleeding fungus slowly protruded from the opening of the puncture. There had been lately slight enlargement of the inguinal glands without pain.

After the amputation, which was performed a week or ten days subsequently to the puncture, the case went on most favourably till the night of the 6th day. Mr. K. had been very well, and in excellent spirits: he went off quietly to sleep, and in the night rang for the nurse, who lifting the sheet, saw a most violent rush of blood from the wound; the patient died without uttering a word.

Examination of the limb and body. The head of the tibia was largely excavated by a medullary tumour of soft brainlike consistence, in which there were small deposits of coagulated blood. This growth extended forwards and backwards, being irregularly deposited between the muscles and in the intervals of their fibres. It had protruded from the bone just at the division of the popliteal artery, and the passage of the anterior tibial through the interosseous ligament.

This circumstance accounts for the pulsation felt in the tumour at an early period; for the suppression of the pulse in the tibial arteries, when the morbid growth was confined by the fascia of the leg; and for its subsequent return, when the progress of the swelling through the fascia had liberated the arteries from pressure.

An absorbent gland, situated close to the artery and cut through in the operation, was diseased.

The end of the femoral artery was completely open, without any trace of coagulum or effused lymph. The ligature, with its knot entire, was found in the stump.

The inguinal glands were diseased: they presented, when cut through, a marbled appearance from intermixture of white medullary matter with the natural texture of the gland. One or two glands on the side of the pelvis were diseased in the same manner.

There was a soft medullary tubercle, as large as a gooseberry, in the thin edge of the liver.

On the treatment of serous cysts. The essential differences that we observe, in the structure of cysts, and the nature of their contents, would lead us to suppose that the same principles of treatment cannot be applicable to all cases of encysted tumours. In

some instances the cyst is like the thinnest serous membrane, and contains a clear fluid of watery consistence; in others it is a fibrous structure more or less compact and thick, perhaps with a cuticular or horny lining, or with portions of cartilaginous or osseous texture, and containing either a thick fluid, or from that to the most compact kind of fat or other matter. The fibrous cysts must be either left alone, or completely removed by the knife. To irritate them, either by seton, by stimulating injections, or by incision and escharotics, is not only ineffectual as a means of cure, but very dangerous. Measures of the latter kind may be adopted without much risk in the serous cysts. We may make an incision into the swelling and keep it open; inflammation and suppuration of the membrane will ensue, and will lead to permanent obliteration of the cyst. Excision is applicable to the fibrous cysts, which are generally seated in the subcutaneous stratum of adipous texture; while the other mode of proceeding is more convenient in those of serous structure, which are seated more deeply, in the intermuscular cellular tissue, and generally covered, at least in part, by some superficial muscle. These, when neglected, often become so extensive, and are so closely connected to blood-vessels and other important parts, that complete excision would be either extremely difficult or impracticable. To illustrate the progress and character of the complaint, and the effect of the treatment, I shall relate two cases, in one of which the cyst contained a watery fluid, in the other hydatids.

CASE.

Large serous cyst in the neck treated by incision.

A youth, between thirteen and fourteen years of age, has had a swelling in the left side of the neck for eight years, during which time it has slowly increased, without pain or any interruption of health. Leeches, lotions, and other topical means have been employed without any apparent effect on the tumour, which is nearly as large as the fist. It is situated under the sterno-mastoideus; extending from the sternal end of the clavicle to the ear; passing in front to the side of the trachea, larynx, and œsophagus; and stretching behind the muscle towards the ligamentum nuchæ. It is soft and compressible throughout, obviously containing fluid; for its sides can be pinched together between the finger and thumb. It varies in tension according to the state of the surrounding muscles, but it is not affected by holding the breath or coughing.

On the 17th of September, 1830, I performed the following operation. An incision, between two and three inches long, was made over that part of the swelling which extended behind the sterno-mastoideus. After dividing the platysma myoides, a thin cyst was exposed and laid bare as far as the external incision would admit. It was then punctured, when a few ounces of light-brownish watery fluid escaped. I proceeded to cut out the denuded portion of the cyst, and found that it had a smooth surface, like

that of a serous membrane, and that in its substance there were other smaller cysts. Most of these communicated with the general cavity; but some were entire. The cavity presented a smooth surface, with a few inequalities, being lined throughout by a continuation of the membrane described above. It extended behind the sterno-clavicular articulation, and thence to the angle of the jaw and ear. The sterno-mastoideus and platysma myoides bounded it externally; the trachea, œsophagus, and large blood vessels on the inside. The carotid artery was felt through the thin membrane of the cyst, in the whole length of the neck, as if it had been dissected. I introduced four slips of lint, spread with spermaceti cerate, into the cavity, leaving their ends out at the wound, which was lightly covered with a similar dressing.

19th. There was some feverishness yesterday; slight delirium was observed in the night; to-day there is pain of the head with heat of skin. Twelve ounces of blood were taken from the arm at ten in the morning; it was buffed; the venesection was repeated in the evening.

21st. There has been copious thin discharge tinged with blood; the dressings were removed and renewed in the same manner. From this time they were renewed daily, the discharge gradually acquiring a healthy purulent character. In the middle of the third week a severe attack of inflammation, with

swelling and great pain of the neck, took place. There was some pain of the chest, with uneasiness in breathing, which was performed with a kind of catch; and some difficulty in swallowing. Leeches and poultice were employed, and no dressing was introduced into the cyst after this period.

20th of October. The frequent repetition of aperients and low diet have been necessary to check the disposition to inflammation. The wound is healing; a director passes in for about an inch and a half. The cavity was obliterated at the beginning of November, when the patient left town, though the wound had not completely cicatrised. A hard lump as large as a filberd could be felt in front of the sterno-mastoideus.

I have heard very recently that this young gentleman continues perfectly well, without any vestige of the former disease in the neck; that a peculiar carriage of the head, caused by the presence of the swelling, had disappeared; and that he is much improved in appearance and strength.

Since the foregoing case was under my care, I have found two interesting examples of similar affection recorded in the second volume of the Chirurgie Clinique de Montpelier of Professor Delpech, by whom they were successfully treated. In the first of these, a woman of twenty-four, in whom the complaint had begun at the age of nineteen, the swelling was as

large as the head, and occupied the front and sides of the neck. Professor D. punctured it, and let out more than four pints of "sérosité citrine, un peu visqueuse, mais très coulante." In twelve days the tumour had regained its original size, when he opened it by an incision two inches in length. After the contents had been cleared out, it was found that the back of the cyst was spread over the larynx and pharynx, passing on each side to the vertebral column; that it had displaced laterally the large blood-vessels and the sterno-mastoid muscles; that the two sides of the cyst nearly met together behind; that it covered the base of the lower jaw above, being continued below, in front of the trachea, a short way behind the sternum, and then reflected over the anterior surface of the bone at its upper part. The cyst was filled with packets of charpie tied up, it being considered important to place these foreign substances in contact with all points of the internal surface, in order to excite an uniform degree of inflammation throughout. Fresh packets of charpie were added daily, in proportion as room was left by the subsidence of those previously introduced. Every five days the whole quantity was taken out and replaced by a fresh supply. The wound was perfectly healed on the ninetieth day*.

The other case was that of a boy twelve years old, in whom the swelling, as large as the head of a child

* Chirurgie Clinique, Tom. II. p. 79—87.

at birth, had commenced in early infancy, was situated under the sterno-mastoideus, and extended from the neighbourhood of the ear to the clavicle. Two pints of yellow serous fluid were evacuated by a puncture, which was enlarged to an incision of two inches. The same course was pursued as in the former case, and the patient was quite well in forty days *.

Case of cyst in the orbit, containing hydatids, and causing protrusion of the globe, with eversion of the lower lid.

Charles Rowell, forty-two years of age, was admitted, under my care, into the London Ophthalmic Infirmary on the 3d of January, 1820, with protrusion of the globe from the orbit by a deep seated tumour, which had been growing for seven years. He had applied at the infirmary in an earlier period of the affection, when the unnatural prominence of the eyeball was distinctly marked, but vision had not become impaired. I could then feel obscurely, under the superciliary arch, a small firm protuberance, which seemed to be part of a deeply seated swelling, and considered that extirpation of this growth by an operation afforded the only chance of relief. The patient was averse to this measure, which was not strongly recommended, and he discontinued his attendance. The complaint had slowly increased, its

* Chirurgie Clinique, Tom. II. p. 88—91.

progress having been attended with great pain, which for some months had been so severe both day and night, as to cause great emaciation and general weakness.

When this patient was admitted into the infirmary, the tumour had advanced so far between the upper and inner portion of the eyeball and the eyelid as to have thrust the globe completely out of the orbit. The upper lid, greatly stretched and inflamed, covered the eye and the tumour; the lower was completely everted, and its membranous lining appeared as a thick fleshy mass. The conjunctival covering of the globe was thickened by chronic inflammation, the consequence of exposure. The structure of the eye was uninjured: the pupil round, and about in the middle state; the iris motionless. Vision was destroyed. The tumour was firm, and apparently fixed to the orbit: it afforded, on pressure, an obscure sense of fluctuation.

To relieve the distension and pain, and acquire some further insight into the nature of the disease, a puncture was made into the most prominent part of the swelling, and about a dessert spoonful of clear watery fluid escaped. Considerable diminution of suffering ensued. When I examined the part two days afterwards, I found a soft opake white substance in the puncture, and proceeded to remove it with a pair of forceps; it proved to be an hydatid, and a few others escaped when pressure was made

on the swelling. Some more came away on the following day, and I afterwards cleared out the whole collection, amounting to half a tea-cup full, by enlarging the puncture and injecting water forcibly into the sac. The hydatids varied in size, from that of a filberd to that of a small pea; some were entire, others collapsed. Inflammation and suppuration of the cyst followed without much pain; the discharge then gradually diminished, and the opening closed in about a month. The eye returned to its natural situation, and all uneasiness ceased. In March, the only traces of the complaint were a loose and wrinkled state of the integuments of the upper lid, and the eversion of the lower, which was gradually diminishing by the application of lunar caustic to the thickened conjunctiva. A little motion of the iris and slight perception of light had returned.

In the work already quoted, Professor Delpech relates two cases of serous cyst in the orbit; one of which contained a clear serous fluid *, the other a single large hydatid †. He made a free opening in each instance, and introduced charpie into the cavity. The latter proceeding seems to me objectionable in all cases of this kind, as likely to excite and keep up serious inflammation. That the objects we have in view can be accomplished without it, is obvious from the two instances I have related.

* P. 92. † Ibid. p. 99.

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